

1020000080608

## [SEQUENCE LISTING]

&lt;110&gt; PYUN, YU RYANG

<120> Thermostable L-Arabinose Isomerase and Process for Preparing D-  
tagatose thereby

&lt;130&gt; DP01202

&lt;160&gt; 4

&lt;170&gt; KopatentIn 1.6

&lt;210&gt; 1

&lt;211&gt; 21

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; primer araAP

&lt;400&gt; 1

atgatagatc tcaagcagta c

21

&lt;210&gt; 2

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; primer araAR

&lt;400&gt; 2

tcatcttttc aaaagccccc

&lt;210&gt; 3

BEST AVAILABLE COPY

1020000080608

&lt;211&gt; 1491

&lt;212&gt; DNA

&lt;213&gt; Thermotoga neapolitana 5068

&lt;400&gt; 3

atgatagatc tcaagcagta cgagttcttg tttctctgtc gcagccagta tctctacggt 60  
ctggagacgt tgaagaagggt agagcagcag gcaagcagga tagttgagga actgaacaat 120  
gateccattt ttccctcaaa gatcgttctg aaacctgtt: tgaaaaattc cgccgagatc 180  
agagagatct tcgaaaaggc aaatgcagaa ccaaaatgc: ccggtgtcat cgtgtggatg 240  
cacacgttet caccttcgaa gatgtggata agaggcctc: ccatcaataa aaaacccctg 300  
cttcacctcc acaccagta caacagggag atcccgtgg: acacgatcga tatggactac 360  
atgaacctga accaatctgc ccacgggtgac agggaaacac: gattcattea cgcgaggatg 420  
agactcccaa gaaagggtcgt ggtgggacat tgggaagac: gagaagtcag ggaaaagatc 480  
gcaaaatgga tgagagtggc ctgcgcgata caggatggaa gaactggaca gatcgtgaga 540  
ttcggcgata acatgagaga ggttgccagc accgaagac: acaagggtgga ggcacagata 600  
aaactcggct ggtccataaa cacctgggggt gtcggagag: tcgccgaggg agtgaaggcg 660  
gttccagaaa acgaagtgga ggaattgttg aaggagtaca aagaaaggta catcatgcca 720  
gaagacgaat acagcctcaa agcgatcaga gaacaggcga agatggagat tgcactgaga 780  
gagtttctga aagagaagaa tgccatcgcc ttcaccacca ccttcgagga tcttcacgat 840  
cttccccagc ttcceggctt tgcagtccag aggctcatgg aggaagggtg tggatttgga 900  
gcggaaggag actggaaggc agccgggctt gtgagggttt tgaaggatcat gggagctggg 960  
cttcccgggtg gtacatcctt catggaggac tacacctac: atctcacacc gggaaacgaa 1020  
ctcgtgctgg gagcgcacat gctagagggtg tgccccacga tcgctaagga aaagccaaga 1080  
atagagggtg atcctctcag catcgggtgga aaagcagat: ctgcaagcct tgctttcgat 1140  
ggacaagaag gtcccgtgtt caacgcctcc atcgttgaca tgggaaacag gttcaggctg 1200

1020000080608

gtagtgaaca gagtgttgtc tgttccatt gaaaggaaga tgcccaaact tccaacggca 1260  
agagttttgt ggaagccgct tcttgatttc aagagggcga cgactgcgtg gattctcgct 1320  
ggaggatccc atcactactgc cttctcaaca gcggtggatg tggagtacct catcgactgg 1380  
gcggaggcct tggagataga gtatcttgtc atcgatgaaa atctggatct ggagaacttc 1440  
aaaaaggaac tgagatggaa cgaactctac tggggacttc taaaaagatg a 1491

&lt;210&gt; 4

&lt;211&gt; 496

&lt;212&gt; PRT

&lt;213&gt; Thermotoga neapolitana 5068

&lt;400&gt; 4

Met Ile Asp Leu Lys Gln Tyr Glu Phe Trp Phe Leu Val Gly Ser Gln

1 5 10 15

Tyr Leu Tyr Gly Leu Glu Thr Leu Lys Lys Val Glu Gln Gln Ala Ser

20 25 30

Arg Ile Val Glu Ala Leu Asn Asn Asp Pro Ile Phe Pro Ser Lys Ile

35 40 45

Val Leu Lys Pro Val Leu Lys Asn Ser Ala Glu Ile Arg Glu Ile Phe

50 55 60

Glu Lys Ala Asn Ala Glu Pro Lys Cys Ala Gly Val Ile Val Trp Met

65 70 75 80

His Thr Phe Ser Pro Ser Lys Met Trp Ile Arg Gly Leu Ser Ile Asn

85 90 95

Lys Lys Pro Leu Leu His Leu His Thr Gln Tyr Asn Arg Glu Ile Pro

100 105 110

BEST AVAILABLE COPY

1020000080603

Trp Asp Thr Ile Asp Met Asp Tyr Met Asn Leu Asn Gln Ser Ala His  
115 120 125  
Gly Asp Arg Glu His Gly Phe Ile His Ala Arg Met Arg Leu Pro Arg  
130 135 140  
Lys Val Val Val Gly His Trp Glu Asp Arg Glu Val Arg Glu Lys Ile  
145 150 155 160  
Ala Lys Trp Met Arg Val Ala Cys Ala Ile Gln Asp Gly Arg Thr Gly  
165 170 175  
Gln Ile Val Arg Phe Gly Asp Asn Met Arg Glu Val Ala Ser Thr Glu  
180 185 190  
Asp Asp Lys Val Glu Ala Gln Ile Lys Leu Gly Trp Ser Ile Asn Thr  
195 200 205  
Trp Gly Val Gly Glu Leu Ala Glu Gly Val Lys Ala Val Pro Glu Asn  
210 215 220  
Glu Val Glu Glu Leu Leu Lys Glu Tyr Lys Glu Arg Tyr Ile Met Pro  
225 230 235 240  
Glu Asp Glu Tyr Ser Leu Lys Ala Ile Arg Glu Gln Ala Lys Met Glu  
245 250 255  
Ile Ala Leu Arg Glu Phe Leu Lys Glu Lys Asn Ala Ile Ala Phe Thr  
260 265 270  
Thr Thr Phe Glu Asp Leu His Asp Leu Pro Gln Leu Pro Gly Leu Ala  
275 280 285  
Val Gln Arg Leu Met Glu Glu Gly Tyr Gly Phe Gly Ala Glu Gly Asp  
290 295 300

BEST AVAILABLE COPY

1020000030603

Trp Lys Ala Ala Gly Leu Val Arg Ala Leu Lys Val Met Gly Ala Gly  
305 310 315 320  
Leu Pro Gly Gly Thr Ser Phe Met Glu Asp Tyr Thr Tyr His Leu Thr  
325 330 335  
Pro Gly Asn Glu Leu Val Leu Gly Ala His Met Leu Glu Val Cys Pro  
340 345 350  
Thr Ile Ala Lys Glu Lys Pro Arg Ile Glu Val His Pro Leu Ser Ile  
355 360 365  
Gly Gly Lys Ala Asp Pro Ala Arg Leu Val Phe Asp Gly Gln Glu Gly  
370 375 380  
Pro Ala Val Asn Ala Ser Ile Val Asp Met Gly Asn Arg Phe Arg Leu  
385 390 395 400  
Val Val Asn Arg Val Leu Ser Val Pro Ile Glu Arg Lys Met Pro Lys  
405 410 415  
Leu Pro Thr Ala Arg Val Leu Trp Lys Pro Leu Pro Asp Phe Lys Arg  
420 425 430  
Ala Thr Thr Ala Trp Ile Leu Ala Gly Gly Ser His His Thr Ala Phe  
435 440 445  
Ser Thr Ala Val Asp Val Glu Tyr Leu Ile Asp Trp Ala Glu Ala Leu  
450 455 460  
Glu Ile Glu Tyr Leu Val Ile Asp Glu Asn Leu Asp Leu Glu Asn Phe  
465 470 475 480  
Lys Lys Glu Leu Arg Trp Asn Glu Leu Tyr Trp Gly Leu Leu Lys Arg  
485 490 495

BEST AVAILABLE COPY